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DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
TECHNICAL SPECIFICATION 3.1.11; REQUEST FOR WAIVER OF COMPLIANCE

At 0055 on June 8, 1990 Palisades experienced a failure of pressurizer heater transformer No 15. Pressurizer heater transformer No 15 feeds one-half of the pressurizer heaters and is fed from non-safety bus 1E. Subsequent investigation has revealed that a ground fault occurred to the primary transformer winding. Technical Specification 3.1.11 requires that a minimum of 375 KW of pressurizer heater capacity be available from bus 1D and from bus 1E. Should heater capacity from either bus fall below 375 KW, the capacity must be restored within 72 hours or the Plant must be in hot shutdown within the next 12 hours. If the heaters cannot be restored in this time frame, the Plant must be placed in cold shutdown within the following 24 hours per Technical Specification 3.0.3.

The purpose of this letter is to request a temporary waiver of compliance from Technical Specification 3.1.11 so that the Plant can be maintained in hot shutdown while a repair is made to the pressurizer heater power supply. The waiver is requested for a total of seven days, until 1255 on June 18, 1990. If the heaters are not restored by that time, the Plant will be taken to cold shutdown. A discussion of the circumstances surrounding the repair, the duration of the repair, and the basis for this waiver request follows.

Efforts to repower the pressurizer heaters fed from transformer No 15 with the Plant at power have been unsuccessful and, therefore, the reactor has been shutdown and is presently in a hot shutdown condition. Plans have been developed to re-energize the heaters fed by transformer No 15 from a temporary transformer. Repair of transformer No 15 is not considered practical at this time due to its sealed design and location in the Containment Building. The temporary transformer will be located at the south end of the turbine building and fed from the 1E bus. This location was selected to expedite restoration of the pressurizer heaters and is acceptable from a nuclear safety standpoint because the transformer and heaters are not relied on for accident mitigation, and therefore are not classified electrical class 1E.

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A conservative schedule for accomplishing this repair has been developed which indicates that the pressurizer heaters will be restored by approximately 0800 on Monday, June 18, 1990. Every effort is being made to improve this schedule to restore pressurizer heater power sooner.

The requirement to maintain a minimum of 375 KW of pressurizer heater capacity on two separate power supplies (busses 1D and 1E) was added to the Plant Technical Specifications by Amendment No 67 dated October 8, 1981. The NRC Staff Safety Evaluation Report referenced NUREG-0578, TMI-1 Lessons Learned Task Force, as the basis for this new requirement. The requirement was imposed to improve primary coolant system pressure control and reduce challenges to emergency core cooling systems during Plant shutdowns, particularly with offsite power not available and the primary coolant system on natural circulation. The required capacity was based on analysis and test as discussed in our letter dated December 19, 1980, and is sufficient to maintain at least 20°F subcooling during natural circulation of the primary system.

The proposed waiver of compliance has been reviewed and approved by the Palisades Plant Review Committee (PRC). The PRC concluded that the waiver involves minimal or no reduction in safety. This conclusion was based on several considerations. First, the Plant will be maintained in hot shutdown with all control rods inserted and the boron concentration at that for cold shutdown conditions until the heaters are restored. Therefore, the potential for a reactor transient is greatly reduced and a Plant cooldown with the resultant challenge to the pressurizer pressure control system (with the system in its current configuration with reduced heater capacity) is avoided. Also, a primary system heatup and cooldown cycle will be avoided. It is considered important to avoid unnecessary heatup and cooldown cycles because thermal cycling has been identified as a possible contributor to steam generator tube degradation.

Second, at least two sources of power to bus 1D which supplies power to the remaining pressurizer heaters will be maintained. There are presently four sources of power to the 1D bus; the new safeguards transformer, the startup transformer, backfeed from the main transformer through use of the newly installed main generator motor operated disconnect, and the diesel generator. Therefore, it is highly unlikely that the remaining pressurizer heaters (approximately 540 KW) would be lost. Should any of the three offsite power supplies become unavailable, repairs will be accomplished on a priority basis. Further, if two of the three offsite power supplies become unavailable, or if the diesel generator associated with bus 1D becomes inoperable, for more than 24 hours, then the Plant will be taken to cold shutdown within the following 24 hours. This is in accordance with existing Plant Standing Orders.

Third, the Plant can be safely shutdown without reliance on the pressurizer heaters. The pressurizer heaters are not safety-related and the Emergency Operating Procedures address safe shutdown with only safety-related equipment available.

Fourth, the pressurizer heaters powered from bus 1D are adequate to maintain a stable primary system pressure during operation at hot shutdown.

It has been determined that the proposed waiver of compliance does not involve a significant hazard consideration. The proposed waiver to extend operation at hot shutdown for an additional seven days with only one source of power to the pressurizer heaters does not involve a significant increase in the probability or consequences of an accident previously evaluated because the reactor can be safely shutdown without reliance on the pressurizer heaters. The proposed waiver does not create the possibility of a new or different kind of accident from any accident previously evaluated because pressurizer control system failures were considered in the design of the Plant and the reactor can be safely shutdown without reliance on the pressurizer heaters. The proposed waiver does not involve a significant reduction in the margin of safety to achieve and maintain cold shutdown. The margin of safety is not dependent on the availability of pressurizer heaters, thus, the design margin of safety remains unchanged. Therefore, it is concluded that the proposed waiver does not involve a significant hazard consideration.

It has also been determined that the proposed waiver of compliance does not involve any irreversible environmental consequences. The proposed waiver does not involve any significant increase in the amounts, or changes in the types, of any effluents that may be released offsite.

In summary, it is requested that a waiver of compliance from Technical Specification 3.1.1i be granted for a period of seven days from 1255 on June 11, 1990 to 1255 on June 18, 1990 to permit the Plant to remain in hot shutdown while a repair is made to restore power to pressurizer heaters fed from bus 1E. If this repair cannot be accomplished within the time permitted by this waiver, or if the number of available sources of power to the remaining heaters is significantly reduced as discussed above, the reactor will be placed in a cold shutdown condition.

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cc: NRC Regional Administrator, Region III
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E R Swanson, NRC Resident Inspector